

1. An apparatus for the generation of sanitizing chemicals, the apparatus comprising:

  - a buoyant enclosure;
  - a plurality of electrodes extending outward from the buoyant enclosure;
  - a power source disposed within the buoyant enclosure; and
  - a polarity reversing module electrically connected to the plurality of electrodes.
2. The apparatus of claim 1, wherein the buoyant enclosure comprises an upper buoyant housing and a lower buoyant housing disposed to one side of the upper buoyant housing.
3. The apparatus of claim 1, wherein the buoyant enclosure is configured to float freely within a body of water
4. The apparatus of claim 2, wherein the upper and lower buoyant housings comprise a floatable composite plastic material.
5. The apparatus of claim 1, wherein the buoyant enclosure is configured with a polyhedral shape.
6. The apparatus of claim 1, wherein the buoyant enclosure is configured with a photovoltaic cell attached to each side of the polyhedron.
7. The apparatus of claim 1, wherein the buoyant enclosure comprises a polyhedron of eight sides.

1           8.     The apparatus of claim 7, wherein the buoyant enclosure comprises one  
2     central photovoltaic cell and 8 photovoltaic cells each of which is attached to one side of the  
3     enclosure.

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5           9.     The apparatus of claim 7, wherein the sides of the buoyant enclosure are  
6     configured to be at an incline set at an angle in the range of between about 30° and 45°.

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8           10.    The apparatus of claim 1, wherein the plurality of electrodes comprises at  
9     least two electrodes.

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11          11.    The apparatus of claim 1, wherein the plurality of electrodes comprises a  
12     metal electrode coated with an oxidizer coating thereby configured to resist the formation of  
13     scale, and prevent corrosion.

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15          12.    The apparatus of claim 1, wherein the power source comprises a replaceable  
16     power supply.

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18          13.    The apparatus of claim 1, wherein the power source comprises a renewable  
19     power supply.

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21          14.    The apparatus of claim 13, wherein the renewable power supply comprises a  
22     photovoltaic solar panel.

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24          15.    The apparatus of claim 13, wherein the renewable power supply comprises a  
25     plurality of photovoltaic solar panels.

1           16.    The apparatus of claim 15, wherein the plurality of photovoltaic solar panels  
2           comprise a centrally situated solar panel and a plurality of side solar panels, one situated on  
3           each side of the polyhedron shaped buoyant enclosure.

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5           17.    The apparatus of claim 1, wherein the polarity-reversing module is configured  
6           to alternate the polarity of the electrodes in order to prevent chemical accumulation on the  
7           surface of the electrodes.

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9           18.    The apparatus of claim 17, wherein the polarity-reversing module is  
10          configured to reverse the polarity of the electrodes at a selected time interval.

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12          19.    The apparatus of claim 17, wherein the polarity-reversing module comprises a  
13          timing circuit configured to provide an input to a plurality of contact relays to reverse the  
14          polarity applied to the plurality of electrodes at every occurrence of the selected time  
15          interval.

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17          20.    The apparatus of claim 19, wherein the selected time interval is in a range  
18          from between about 1 to 72 hours.

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20          21.    An apparatus for the generation of sanitizing chemicals, the apparatus  
21          comprising:  
22                  an enclosure;  
23                  a plurality of electrodes extending outward from the enclosure;  
24                  a power source for powering the plurality of electrodes;  
25                  a polarity reversing module electrically connected between the plurality of  
26          electrodes and the power source;

